

WHAT IS CLAIMED IS:

1. An optical manifold comprising:
 - a unitary body having an input end and an output end;
 - 5 said input end having a plurality of input openings in a first ordered arrangement;
 - said output end having a plurality of output openings in a second ordered arrangement which differs from that of said first ordered arrangement;
 - said unitary body further comprising a plurality of integrally formed
 - 10 passageways, wherein each of said passageways connects a single input opening with a single output opening.
2. The optical manifold of claim 1, wherein the unitary body is formed of a polymeric material.
- 15 3. The optical manifold of claim 2, wherein the unitary body contains voids to reduce the amount of polymeric material required.
4. The optical manifold of claim 1, wherein the unitary body is formed of a metal.
- 20 5. The optical manifold of claim 1, wherein the unitary body is formed by an additive manufacturing process.
6. The optical manifold of claim 1, wherein the passageways have been smoothed
- 25 by abrasive laden slurry polishing.
7. The optical manifold of claim 1, wherein at least one ruggedized cable attachment is provided at the input end or the output end of the unitary body.
- 30 8. The optical manifold of claim 7, wherein the at least one ruggedized cable attachment anchors load bearing portions of a ruggedized cable to the unitary body to provide strain relief.

9. The optical manifold of claim 1, wherein at least one multifiber termination has been made at the input end or the output end of the unitary body.

5 10. The optical manifold of claim 1, wherein the unitary body has been enclosed within a protective housing.

11. The optical manifold of claim 10, wherein at least one optical connector is anchored to the protective housing.

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12. The optical manifold of claim 1, wherein the unitary body has been mounted to a plug-in card to form an optical shuffle module.

13. The optical manifold of claim 12, wherein the optical shuffle module has been
15 rack mounted.

14. An optical manifold comprising:

a body having plurality of plates, each of said plates having an input end and an output end;

20 each plate being formed with a plurality of channels spanning the entire length of each plate from the input end to the output end;

said body being constructed by arranging the plurality of plates in a stacked configuration, wherein each of said channels forms a passageway connecting a single input opening with a single output opening.

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15. The optical manifold of claim 14, wherein the at least one passageway is non-linear.

16. The optical manifold of claim 14, wherein at least two channels intersect on at
30 least one plate.

17. The optical manifold of claim 14, wherein the plates are substantially rigid.

18. The optical manifold of claim 14, wherein the plates further comprise an alignment means for indexing the plates one to another.

5 19. The optical manifold of claim 14, wherein the channels are formed by milling each of said plates.

20. The optical manifold of claim 14, wherein the channels are formed by injection molding each of said plates.

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21. An optical manifold comprising:

a body having a plurality of hollow tubes, each of said tubes having an input end and an output end;

15 a first endplate having a plurality of input openings in a first ordered arrangement;

a second endplate having a plurality of output openings in a second ordered arrangement which differs from said first ordered arrangement;
said body being disposed between said first endplate and said second endplate,
wherein each of said hollow tubes connects a single input opening with a single
20 output opening.

22. The optical manifold of claim 21, wherein the tubes are flexible.

23. The optical manifold of claim 21, wherein the tubes are substantially rigid.

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24. The optical manifold of claim 23, wherein the tubes are formed of two semi-cylindrical halves.

25. The optical manifold of claim 21, wherein the tubes are color-coded.